PEACE/WILLISTON
FISH & WILDLIFE
COMPENSATION
PROGRAM

Wetlands Enhancements 1992

BC hydro

F. B. Corbould
September 1992

BRITISH COLUMBIA

PWFWCP Report No. 18

The Peace/Williston Fish & Wildlife Compensation Program is a cooperative venture of BC Hydro and the provincial fish and wildlife management agencies, supported by funding from BC Hydro. The Program was established to enhance and protect fish and wildlife resources affected by the construction of the W.A.C. Bennett and Peace Canyon dams on the Peace River, and the subsequent creation of the Williston and Dinosaur Reservoirs.

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Website: *www.bchydro.bc.ca/environment/initiatives/pwcp/*

This report has been approved by the Peace/Williston Fish and Wildlife Compensation Program Fish Technical Committee.

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WILLISTON WILDLIFE PROJECT REPORT

PROJECT DATE: August 10th to 14th, 1992.

PROJECT TYPE: Installation of artificial nesting islands, nestboxes and loafing logs.

PROJECT LOCATION: Islands, nestboxes and loafing logs were installed at marshes, ponds and small lakes within the Parsnip drainage area. In addition, a pond north of Hudson's Hope was also enhanced.

PROJECT DETAILS:

In total 9 wetland areas were enhanced in the Williston watershed. Four floating islands (2 PVC, 2 wooden) and 23 nestboxes were installed (Table 1 and 2). Ten[1] loafing logs were also positioned: 60 Km Marsh (3), Tudyah North (2), Misinchinka (1), Wapoose Lake (1), and Mugaha A (1), B (1), and G (1). In addition to the 1992 enhancements, new cattails were placed on the PVC nesting island at Mugaha G which was established last year.

The placement of floating islands provides a stable nesting site that adjusts to fluctuating water levels. Isolated from the shoreline the islands also protect nesting waterfowl from predators. Meanwhile, nestboxes provide artificial nesting sites in areas where suitable natural cavities are not available to cavity-nesting waterfowl, such as bufflehead, goldeneyes and mergansers.

Loafing logs provide a stationary offshore loafing/resting area for waterfowl. Loafing logs that were utilized consisted of a log approximately 3 to 4 metres in length tethered to anchors by cables at both ends. All logs, ranging from 15 to 30 cm in diameter, were cut from standing, dead logdepole pine snags.

PROJECT COST:

Nesting Islands (4)		$1400.00
Nestboxes (24)		$ 480.00
Cable & Weights		$ 780.00
	Sub-total	$2660.00
	Tax (PST)	$ 159.60
	TOTAL	$2819.60

[1] Nine loafing logs were installed in August with the tenth log expected to be installed during the winter, via snowmobile, due to marsh conditions.

Table 1. Location and site description of nestboxes installed August, 1992.

TUTU B:

NESTBOX #	TREE DESCRIPTION	BOX HT.	ASPECT	DIST. TO WATER	GROUND COVER
1	aspen, healthy, mid-slope 30 cm dbh	6m	E	15-17m	cleared extensively dense debris remaining
2	birch, healthy, 30 cm dbh	5m	SE	7m	debris at tree base
3	birch, healthy, spruce snag betw. shore and nest-tree	4m	SE	7m	clear to shore
4	aspen, sign of heart rot	4m	SE	30m	grass and small trees

MUGAHA B:

NESTBOX #	TREE DESCRIPTION	BOX HT.	ASPECT	DIST. TO WATER	GROUND COVER
5	aspen, healthy, 35 cm dbh, sign of beaver activity	4m	E	30m to sedge 70m to water	small aspen
6	40cm dbh	4m	E	25m to sedge 70m to water	log debris
7	aspen, healthy, 25 cm dbh	3.5m	SE	25m to sedge 50m to water	Pl, S, clear of debris
8	lodgepole pine, 40 cm dbh	4m	S	17-20m	willow, aspen and small pine adjacent

MUGAHA A:

9	birch, healthy, 35 cm dbh, mid-slope (2m)	4m	SSW	6m	alder, aspen, rose, thimbleberry
10	birch, healthy, 32 cm dbh, mid-slope (2m)	3m	SW	5m	pine and birch adjacent, rose, thimbleberry

TUDYAH NORTH:

NESTBOX #	TREE DESCRIPTION	BOX HT.	ASPECT	DIST. TO WATER	GROUND COVER
11	birch, healthy, 28 cm dbh	4m	SW	3.5m	dense cover of rose, alder and red osier
12	birch, healthy, 29 cm dbh healthy	4m	NE	3m	dense ground cover: high-bush, alder, alder, red osier dogwood
13	birch, healthy, 40 cm dbh, beaver sign	5m	WNW	3.75m	high-bush, fireweed, twinflower, lycopodium,
14	birch, healthy, 32 cm dbh	5m	SE	4m	willow, alder, red osier

60 KM MARSH:

NESTBOX #	TREE DESCRIPTION	BOX HT.	ASPECT	DIST. TO WATER	GROUND COVER
15	birch (forked at base), healthy, 36 cm dbh	4m	S	5m to sedge 10m to water	S, Pl, B, saskatoon, site quite open
16	birch, healthy, 40 cm dbh	5m	SW	15-20m	Pl, S, alder, red osier
17	Pl, healthy, 35-40 cm dbh	5m	SE	12m	Pl, S, rose, Shepherdia, alder cleared along shore
18	Pl, healthy, 35-40 cm dbh	4 - 4.5m	S	7m	Pl, twinberry, rose, birch

Table 1 (cont'd). Location and site description of nestboxes installed August, 1992.

ROBERT'S POND:

NESTBOX #	TREE DESCRIPTION	BOX HT.	ASPECT	DIST. TO WATER	GROUND COVER
19	cottonwood, healthy, 70 cm dbh	5m	E	4m	willow, sedge, aspen, Calamagrostis sp.
20	cottonwood, healthy, 50 cm dbh	4.5m	WNW	17m	aspen, twinberry, log debris on ground

WAPOOSE LAKE:

NESTBOX #	TREE DESCRIPTION	BOX HT.	ASPECT	DIST. TO WATER	GROUND COVER
21	aspen, healthy, 45 cm dbh, south of road	3.75m	WNW	15m	Pl, rose, very little debris
22	aspen, healthy, 28 cm dbh, south of road	5m	W	30m	S, aspen, rose, grass, cottonwood, high-bush
23	larch, healthy, 20 cm dbh, north of road	4m	NW	7m	larch, S, rose

Table 2. Location and site description of floating islands installed August, 1992.

ISLAND LOCATION	ISLAND TYPE	ANCHOR SYSTEM	DEPTH (m)	PH	ALKALINITY (mg/L)	HARDNESS (mg/L)
Tudyah North	PVC	single	11.0	8.0	153.9	153.9
60 Km Marsh	wood	double	2.0	8.0	119.7	119.7
Misinchinka	wood	double	1.7	N/A	N/A	N/A
Wapoose Lake	PVC	single	2.5	8.2	273.6	273.6

* Depths are not absolute due to water level fluctuations.

PROJECT MONITORING

1) Monitor floating islands (1991 & 1992 installations) for use and structural condition, and identify island type most suitable for future enhancements. Replace cattails on PVC islands in 1993 at Tutu B and, if necessary, Wapoose and Tudyah North lakes.
2) Monitor nestboxes annually or biannually to identify use and success of nestboxes and nestbox site selection.

RECOMMENDATIONS

1) Continue to inventory waterfowl in the Parsnip drainage but at a reduced level. For example, a couple observations in late April to mid-May and again in mid-July to early August would suffice. These inventories should only be carried out at the higher use areas.
2) Maintain suitable nesting material on the floating islands and in the nestboxes to encourage waterfowl use. Approach the Mackenzie schools and other groups (eg. Cubs, Scouts, Rod and Gun Club) to help in monitoring and maintenance.
3) Depending on the results of the spring burn at the grassy Mischinsinlika foreshore, carry out further programs to ensure suitable foraging areas for migrant and nesting waterfowl.